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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,641	06/01/2001	Vladimir Hlavacek	16672.0	1706

7590 06/30/2004

Vladimir Hlavacek
4921 Pineledge Drive
Clarence, NY 14031

EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

~~09/872,541~~ 09/872,641

Applicant(s)

MCLAUGHLIN ET AL.

Examiner

Sylvia R MacArthur

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cusick, III (US 6,005,221) in view of Albel (US 5,078,552).

Regarding claims 1 and 5: Cusick, III teaches a chemical drill with an elongated tube, a source of an oxidizer, and a conduit for establishing a controllable flow of oxidizer from the source through the tube. Cusick teaches an outer jacket (sleeve) 11 made of plastic, see the paragraph joining col.7 and 8.

Cusick fails to teach a sleeve formed of a material comprising chlorine and/or fluorine.

Cusick fails to teach a sleeve comprising chlorine or fluorine.

Albel teaches a drill bit with a sleeve 3 made of an elastomer or thermoplastic including PVC.

The motivation to construct the sleeve of the chemical drill of Cusick with plastic made specifically of chlorine or fluorine is that these materials provide the chemical and physical properties necessary to protect the tube from deterioration due to chemical and thermal stress. Thus it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to modify the chemical drill of Cusick to have a thermoplastic sleeve rather than one made of metal.

Regarding claim 2: The sleeve is mounted on the outer surface of the tube see Fig. 2 and 3 of Cusick.

Regarding claim 3: Figure 2 of Cusick illustrates the wires.

Regarding claim 5-7: Col. 3 lines 20-30 of Albel cites that the sleeve is made of a thermoplastic material able to withstand the mechanical stress of the process, PVC is cited therein. However, PTFE and chlorinated PVC are known suitable materials for constructing sleeves and conduits as evidenced by Auvil et al US (6,000,436).

Regarding claim 8: Cusick fails to teach that the tube comprises iron. However, it is cited that the tube must comprise a conductive material. Iron is known suitable conductive material as it is a metal with chemical and physical properties desirable for the chemical drilling environment, see col. 5 lines 1-15.

Regarding claim 9-12: Cusick fails to teach the specific target material. These claims are held to an apparatus and the apparatus of Cusick modified by Albel is obviously capable of drill any of the material lists in the claims aforementioned. Additionally, these claims are a matter of intended use.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cusick and Albel as applied to claims 1-3 and 5-12 above, and further in view of Vail, III (US 5,836,409).

The teachings of Cusick and Albel are discussed above.

Both fail to teach a tube comprising a plurality of rods.

Vail teaches a drill bit comprising rods. Vail teaches in the abstract that the motivation to provide a rod in the tube is that are better capable handling lateral wear and tear than conventional drills.


Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide the drill of Cusick and Albel with a tube comprising rods.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the core hours of 8 a.m. and 2 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sylvia R MacArthur
Patent Examiner
Art Unit 1763

June 10, 2004